

IN THE CLAIMS:

1. (Canceled)

2. (Canceled)

3. (Canceled)

4. (Canceled)

5. (Canceled)

6. (Canceled)

7. (Canceled)

8. (Canceled)

9. (New) A substantially parallelpiped pin assembly for a BGA based IC encapsulation comprising:

an upper cover comprising a plurality of longitudinal first channels arranged in rows and columns, each channel including an upper first pin hole and a lower first receptacle in communication with the first pin hole and the first spring receptacle having a diameter larger than that of the first pin hole;

a lower cover coupled to the upper cover, the lower cover comprising a plurality of longitudinal second channels arranged in rows and columns, each second channel including an upper second spring receptacle and a lower second pin hole in communication with the second spring receptacle and the second

spring receptacle having a diameter larger than that of the second pin hole;

a plurality of longitudinal, conductive, detachable, and resilient pins each comprising an upper pin having a portion disposed in the first pin hole and the remaining portion projected from the first pin hole, a lower pin having a portion disposed in the second pin hole and the remaining portion projected from the second pin hole, and a single intermediate resilient spring in a space defined by the first and the second spring receptacles, and the intermediate resilient spring being stopped by a joining portion of the first pin hole and the first spring receptacle and a joining portion of the second pin hole and the second spring receptacle respectively, and wherein the upper pin, the lower pin and the intermediate resilient spring of each of the pins are separately formed and the upper pin includes a bottom collar against a top of the resilient member and the lower pin comprising a top collar urged against a bottom of the resilient member respectively:

wherein in testing an encapsulated IC chip, the pin assembly is sandwiched between the IC chip having a plurality of bottom tin balls having a spherical surface and a circuit board of an IC test device, the tin balls are rested on the

upper pins, and the circuit board is connected to the lower pins so as to form an electrical connection between the tin balls and the circuit board; and,

wherein each of the upper pins comprises a concave top conformed to the spherical surfaces of the bottom tin balls.